

13. A reactor as claimed in claim 11, wherein the catalyst for the decomposition of  $N_2O$  is installed as a fixed bed having a height of from 2 to 50 cm.

14. An apparatus for preparing nitric acid from ammonia, comprising in this order

- a reactor as claimed in claim 11,
- an absorption unit for the absorption of nitrogen oxides in an aqueous medium and, if desired,
- a reduction unit for the selective catalytic reduction of nitrogen oxides.

15. An apparatus for preparing nitric acid from ammonia, comprising in this order

- a reactor as claimed in claim 12,
- an absorption unit for the absorption of nitrogen oxides in an aqueous medium and, if desired,
- a reduction unit for the selective catalytic reduction of nitrogen oxides.

16. A process for the catalytic decomposition of  $N_2O$  in a gas mixture obtained in the preparation of nitric acid by catalytic oxidation of ammonia in a reactor having a noble metal gauze catalyst and a heat exchanger in that order in the flow direction, where  $N_2O$  is decomposed catalytically over a catalyst for the decomposition of  $N_2O$  located between the noble metal catalyst and the heat exchanger so that the hot gas mixture obtained from the catalytic oxidation of ammonia is brought into contact with the catalyst for the decomposition of  $N_2O$  prior to subsequent cooling, wherein the catalyst for the decomposition of  $N_2O$  can be prepared by combining  $CuAl_2O_4$  with tin, lead or an element of main group II or transition group II of the Periodic Table of Elements as oxide or salt or in elemental form and subsequently calcining the mixture at from 300 to 1300°C and a pressure in the range from 0.1 to 200 bar.

17. A process as claimed in claim 16, wherein the residence time over the catalyst for the decomposition of  $N_2O$  is less than 0.1 s.

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